DISEASES OF METABOLISM AND NUTRITION

VON NOORDEN

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OBESITY

The Indications for Reduction Cures

BEING PART I OF SEVERAL

CLINICAL TREATISES

ON THE PATHOLOGY AND THERAPY OF

DISORDERS OF METABOLISM AND NUTRITION

BY

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PREFACE TO THE AMERICAN EDITION.

For many years I have been occupied, with my assistants and pupils, in an exhaustive study of the disorders of metabolism and nutrition. The result of this work has been a number of short essays published in various periodicals, and several longer monographs (Textbook on the Pathology of Metabolism, Berlin, 1893; Diabetes and Its Treatment, Berlin, 1st edition, 1893; 3rd edition, 1901; Chlorosis in Nothnagel's Handbook of Pathology and Therapy, Vienna, 1887; Obesity, in the same Handbook, Vienna, 1900.) The wishes of my friends and pupils have induced me to establish a medium for the publication in collected form of the results of our increasing experience in the pathology and therapy of the disorders of metabolism and nutrition. The first volume in this collection (On the Indications for Reduction Cures), and the second (On the Treatment of Acute Nephritis and Chronic Atrophic Kidney), have been already issued in German, the publisher being A. Hirschwald, Berlin. The other numbers should appear at intervals of four to six months. It has been arranged to have the collection contain not only dissertations from my pen, but also writings by my assistants and pupils,—of course under my control and responsibility. The monographs are to express, above all, the personal views and observations of the writers; or they will

contain collective presentations upon important questions. Only such subjects will be chosen as are of importance and interest to every physician.

The following themes are under consideration for the immediate future but not positively decided upon:

THE TREATMENT OF COLICA MUCOSA (Enteritis Pseudomembranacea).

THE MEDICINAL TREATMENT OF DIABETES MELLITUS.

INDICATIONS FOR AND THE METHODS OF CARRYING OUT FEEDING (mast) CURES.

THE TECHNIQUE OF REDUCTION CURES.

THE SIGNIFICANCE OF ACETON IN DIABETES MELLITUS.

It is a source of satisfaction to me to announce that Messrs. E. B. Treat & Co., New York, have undertaken to publish the collection of these monographs in English. Particular care will be taken to have them appear hereafter as nearly simultaneously in New York and in Berlin as possible; and I hope that this American Edition will meet with the same approbation which I am happy to say has been accorded the German.

Prof. Dr. CARL VON NOORDEN,

December, 1902.

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NOTE BY THE AMERICAN EDITOR.

It is due to the disorders of metabolism and nutrition that degenerative changes cut short the activities of so many men and women in middle life,—that, in these latter days, senility and death itself come prematurely to a very large proportion of mankind. Such disorders constitute the bane of our modern civilization. They have been in some measure also a reproach to the science and art of medicine, since until very recently they have not been studied with a thoroughness commensurate with their importance.

In the series of monographs of which this volume on Obesity is the first, these diseases are considered in a manner which is at once scientific and practical. They are based upon exhaustive experiments and bedside observations carried out during a period covering a number of years under the direction of one who is eminent both as a pathologist and as a clinician.

In thus bringing together and arranging for the publication in convenient form of the scattered writings and reports of investigations by himself and assistants, Professor von Noorden has rendered a real service to the profession in both hemispheres—especially now that he has authorized the translation of the work into the English language.

The task of supervising the translation and republication of the series in this country, undertaken in compliance with the personal request of my friend, the distinguished author, has been greatly lightened by the intelligent co-operation of the translator, Dr. Alfred C. Croftan of Chicago, who has rendered Professor von Noorden's vigorous, virile German into smooth and idiomatic English while still preserving faithfully the spirit of the original.

Boardman Reed,
1833 Chestnut Street, Philadelphia.

OBESITY; THE INDICATIONS FOR REDUCTION CURES.

Introductory.

Gentlemen: The physician who does not wish to treat his patients according to old-established routine practice, and who does not feel satisfied with prescribing in a purely superficial manner (so-called "expectant treatment") will consider it his duty and will make it a general guiding principle in the treatment of his cases never to advise therapeutic measures of any kind without having first decided to what extent they are justified and what results may be expected from them. Self evident as these postulates may appear they are nevertheless frequently violated, particularly in the treatment of chronic diseases; chronic disorders of metabolism and of nutrition, especially, are frequently treated in a very careless and superficial manner without any clear ideas apparently on the part of the physician in regard to the exact indications obtaining in each individual case. It seems almost incredible to contemplate how many physicians display a very shallow appreciation of the art of healing when they send diabetics and patients suffering from gall-stones to Carlsbad or Neuenahr, rheumatic cases to Wiesbaden, sufferers from heart disease to Nauheim, purely as a routine practice; when others habitually prescribe milk for cases of nephritis and interdict the use of

meat to sufferers from renal disease, or attempt to make the lean fat and the fat lean, etc., always without any clear conception of what they are doing. This schematic method of treating certain chronic forms of disease is encouraged by the elaboration into the smallest detail of many so-called "methods of cure"; this whole system of therapy would actually appear ridiculous if unfortunately harm were not done in so many cases; when a medical history of our times comes to be written in the future we will certainly be accused of having endorsed almost any method of treatment that seemed to contain something new or seemed to present certain special features; many physicians and many so-called "enlightened" laymen unquestionably merit this reproof for they seem to adopt any such method of treatment without first attempting to render critical judgment on its merits and demerits. As a matter of fact, however, it would be wrong to identify this unfortunate tendency with the trend of modern scientific medicine. On the contrary we are fully justified in saying that the principle to avoid all dogmatism and all schematic methods is apparent to-day in matters therapeutic and that the tendency is apparent to strictly individualize, as far as that is possible, in the treatment of the class of disorders we are discussing.

There is always danger in "individualizing" for we may lose sight of the broad guiding principles that should govern all therapy, and become swamped in a mass of detail; in order to avoid this, certain broad points of view should be adopted. It is necessary to

learn to distinguish the essential from the non-essential. It is important above all to know what we are trying to combat, why we are combating it and what we expect to accomplish by the method of procedure that we adopt. The determination of all these factors coincides with the "indications" for certain therapeutic measures.

In preparing the part on "Obesity" for Nothnagel's Handbook of Special Pathology and Therapy, I was struck by the fact that none of the many writings on Obesity that have appeared in the course of the last decades contain a comprehensive elaboration of the indications for reduction cures in this disease. I consider it a grateful task, therefore, to discuss the most important principles that should guide us in instituting such reduction cures from a uniform point of view. In order to render correct judgment in regard to the advisibility of instituting reduction treatment in any given case it is essential to understand these determining principles and to interpret them correctly.

Before beginning treatment of any kind in an obese subject it is always necessary in the first place to decide the question whether or not to institute a so-called reduction cure or whether to content oneself with preventing the further deposit of fat and with preventing or removing disturbing and dangerous complications. It will frequently be found that the physician and the patient entertain different views on this subject. Reduction cures have become so popular that many patients undergo a course of treatment of this

kind on their own accord and without consulting a physician; others merely consult a physician in order to learn the correct measures to be adopted for the purpose they have in view but not in order to find out whether a reduction cure is necessary or indicated; still others do not consult a physician at all but simply begin a reduction cure on their own responsibility and according to their own method. Frequently prescriptions are followed that are obtained from some acquaintance who may claim to have derived benefit from them, or certain popular writings are consulted that give the desired information and, finally, certain watering places are visited that enjoy the reputation in the reduction of obesity. This independence of action in regard to the treatment of obesity we naturally encounter more frequently in women than in men and more commonly in young girls and in middle-aged women than in older women. It is often a very difficult task for the physician to persuade his client of either sex that a reduction cure may be unnecessary or even dangerous. Even if we succeed in convincing our patient for the time being, the fight is by no means definitely won, for such patients only too often discover more accommodating advisors either among physicians or in the ranks of pseudo-physicians.

We also frequently witness the reverse. A person who is too obese may consult a physician for this or that trouble and the physician may discover that the symptoms of the patient are due to excessive fat and may advise a reduction cure on these grounds; the

patients on the other hand merely recognize that they are suffering from some organic disorder and expect local treatment for the relief of organic symptoms; they do not understand how a reduction cure can be of any benefit nor how their trouble can be relieved by causing a loss of fat; in fact they may refuse to undergo a reduction cure because they fear the weakening effect of this procedure. In many of these cases we are dealing with sufferers from so-called "relative" obesity, in other words, excess of fat according to current ideas is not great and the patients themselves do not regard themselves as "obese"; the physician on the other hand who studies all the factors that are operative in cases of this character realizes how much he can benefit his patient by getting rid of the excess of fat and appreciates how much he can improve the functional powers of certain organs (for instance, the heart, the lungs, the liver, the muscles and joints) by reducing the fat content of the body.

What principles should guide the physician in deciding for or against a reduction cure? In the first place I wish to place myself on record as opposing the view, that we hear so frequently expressed, that reduction cures are a weakening procedure and constitute, in other words, a so-called "weakening cure." The ideas prevalent in the minds of the laity in regard to this matter are altogether exaggerated; a perusal of the literature shows that for many years an earnest, but by no means pleasing, refreshing debate has been waged on this subject; one author will ad-

vise this system of dieting another that one. I feel justified in stating positively that a reduction cure, provided it is really indicated and provided the proper method is adopted and carried out expeditiously, is by no means a weakening procedure, particularly if the peculiarities of each individual case are carefully considered in administering such a cure. Under the conditions outlined a reduction cure can always be tolerated without detriment to the patient and as a rule improves the general functional powers of the organism. It will be seen, however, that such a favorable judgment can only be rendered if a series of conditions are fulfilled that sound simple enough but that nevertheless call for careful consideration and presuppose much practical experience on the part of the physician who supervises the reduction cure. Errors are committed in many of the points that I have mentioned; the most frequent errors being those that lead to the adoption of a reduction cure when such a method of procedure is not indicated, and errors in the method itself.

I have already called attention to the fact that many patients consider themselves altogether competent to decide the important question whether or not a reduction cure should be instituted; this is largely due to the fact that on superficial investigation this decision seems very simple indeed. In regard to the method I am forced to confess that unfortunately many physicians treat cases of this kind according to some prearranged scheme and not according to the require-

ments of each individual case of obesity. Here in Germany—and I suppose the same obtains in other countries—we have a number of sanatoria and many physicians who are committed to certain definite methods of dietetic treatment, methods that are usually known by some well-known name; in all such institutions the particular method that is in favor is adopted for each patient who goes there for treatment, and all the physicians who swear by any one particular method of treatment apply it in each case that comes under their care. The method is their idol and the patient and his disease are merely the object on which to try the method. In the whole field of dietetic therapy this one-sidedness and narrowness is nowhere more pronounced than in reduction cures; this unfortunate condition of affairs is the direct result either of stupidity or of cheap and venial advertising that misleads those who are not competent to render judgment on their own accord. Reduction cures are therefore a happy hunting ground for the charlatan and the fakir and for all the exploiters of the "method swindle."

How often do we hear physicians say: In ordering reduction cures I prescribe the diet given by Dr. X., or I treat my cases according to Dr. Y.'s method and obtain the most gratifying results. This is a very one-sided and narrow standpoint to occupy and it is merely a matter of luck if this one-sidedness does not lead to the committing of serious error. We possess so many physical means of treatment and such a large variety of dietetic schemes that in deciding on

a method of reducing fat the peculiarities of each individual patient can without difficulty be considered and included in the calculation. In numerous cases, it is true, the choice of the method is more or less indifferent and we may be permitted to exercise considerable latitude, may in fact allow the patient to determine the method he wishes to adopt according to the requirements of the external circumstances obtaining in each case; in others again the success of the treatment and the feasibility of instituting a reduction cure at all, not to speak of the well-being and the very life of the patient, may depend on our choice of method.

I. Simple Obesity in Otherwise Healthy Subjects.

The most frequent case encountered in practical life is the development of obesity in persons who are altogether healthy. The decision whether or not to advise a reduction cure in cases of this character hinges altogether on the degree of corpulency and on a variety of other external circumstances that differ in each instance.

a. Advanced Degrees of Obesity.—In deciding whether or not a subject is to be considered excessively obese we must study more the general impression created by the patient, both as regards appearance and state of health, than the incubus of a definite number of kilos of fat. Very advanced degrees of obesity judged from this standpoint are almost without exception fit subjects for a reduction cure. The dangers that may arise if the nutritional disorder is allowed to progress unchecked are great and it is necessary to counteract this tendency. The restrictions of diet to be imposed necessarily vary with the age of the patient. In children and young adults up to the 20th year we should be content to arrest the further progress of obesity and should only at long intervals, that is intermittently, for a period of from four to five weeks, make the attempt to cause a definite loss of fat (so-called intermittent reduction cures). All measures aiming at a reduction of the fat-content of the body are essentially counter-indicated in persons who have

been obese all their life or at least for a period of several decades, particularly if they are advanced in years and are approaching old age; here it is necessary to individualize, for it is impossible to say at what age senescence begins; in one subject this period of senile decline may be reached at the age of sixty, in others not until seventy or eighty. At this period of life at all events they begin to feel the effects of excessive obesity more than at earlier periods; as soon as their vital energies begin to fail numerous disturbances become manifest that were never apparent in earlier years when their body was stronger and was capable of carrying the ballast of excessive fat without difficulty. Many of these patients energetically demand to be freed of the unwelcome burden. Unfortunately the correct time for instituting a reduction cure has in the majority of these instances been allowed to elapse and a reduction cure instituted in a subject suffering from beginning senile decay would never more lead to a rejuvenation of the body. In fact, reduction-cures instituted in old persons almost without exception accelerate decay and lead to a more rapid loss of strength and of functional powers.

b. Medium Degrees of Obesity—(body weight about 15-25 kilo above the average for the particular age, sex and size of the subject). Cases of this kind are the most frequent ones encountered and lend themselves most readily to treatment by reduction cures; they are satisfactory cases to treat. In many of these subjects the small excess of fat can be borne with

impunity and in some instances it may be as well to refrain from all attempts to reduce it; at the same time even the small excess may cause much discomfort and it can hardly be denied that intercurrent diseases (infectious diseases, heart lesions, pulmonary trouble, renal disease, arthritic manifestations, etc.), or over-exertion (by over-straining the heart), may all be frought with more serious consequences in these cases than if the fat content were reduced to normal.

Here, too, the age of the subject must be included in the calculation, and here, too, we must adhere strictly to the rule that reduction cures should be omitted in the aged and should be instituted only with the greatest care and very slowly in children and in adolescents.

The majority of subjects of this kind are about thirty years old or still more frequently between forty and sixty. The physician should carefully study the history of these cases and should make an accurate physical examination; if he finds cause to fear the development of serious complications later on he should most emphatically advise a reduction cure. In cases in which all the organs are found to be healthy the rapidity should be determined with which the fatty deposit grows; if the fat deposit is increasing rapidly or even if it is increasing slowly but steadily and progressively a mode of life should be arranged that will favor arrest of this development; in this way the incidence of degrees of obesity that are directly dangerous and that offer a less favorable prognosis and

less chance of success from treatment may be prevented with great profit to the patient. In cases again in which the degree of obesity remains more or less stationary the external circumstances of the patient should be considered before it is decided whether or not to institute reduction treatment. If the patients are apt to indulge in severe bodily exercise, if they are exposed to the dangers of alcoholism or of other deleterious influences from excesses in living, if, finally, the character and morals of the patient seem to indicate that they will not exercise moderation in work and are apt to over-indulge in the good things of life, in all these conditions, the fact must be taken into serious consideration that obesity must needs be deleterious; here a reduction cure should be instituted even though the patients are not actually suffering any direct inconvenience from their obesity. All the eventualities that we are considering are more apt to occur in younger subjects between the age of thirty and forty, that is at the period of greatest activity and greatest physical and mental exertion, than in later years of life; in men, moreover, these deleterious consequences are more liable for obvious reasons to appear during this period than in women. In all of these cases the success of a reduction cure will depend essentially on the length of time during which reducing measures are persevered in and on the method of reduction that is employed. There is of course no serious objection to inaugurating the course of reducing treatment with an energetic system of dietary and mechanical meas-

ures intended to cause a quick loss of weight amounting to about ten or fifteen pounds; in fact it may be desirable to cause such a rapid loss of flesh, and no bad effects have ever been known to follow this procedure. The root of the matter is not, however, reached by these rapid courses of reduction treatment; it is much more important, in order to obtain permanent and lasting results, to induce the patient to follow certain sensible rules at home and to persevere in the mode of life that is arranged to suit the peculiarities of each case and the external circumstances in which the patient happens to be living; only in this way can an increase of the fat layers be prevented and can a slow but steady reduction of the excessive adiposity be attained. Unfortunately the majority of patients are quite willing to undergo a rapid reduction cure but rarely willing or able to persevere in long lasting dietetic and mechanical restrictions that alone can lead to the desired goal. Nothing can be more foolish or more senseless than to expect lasting benefits from a short course of treatment every summer in some watering place as Marienbad, Kissingen or Homburg, especially if the patient is allowed in the meantime, that is, during the remainder of the year to live in the customary manner and free from all restraint in regard to diet, exercise, etc.; the benefits derived from the short summer treatment, lasting perhaps a month or so, do not determine the fate of the patient but the results of his régime during the remaining eleven months of the year. Unless the physician is so fortunate as to secure

control of the patient during this longer period he will as a rule find that the period of involuntary martyrdom imposed upon him during the short period of one month each summer is altogether devoid of lasting good results; within a few weeks after the termination of the cure and after the patient by dint of rigid restrictions in food and drink, of violent purging and of mountain climbing and forced gymnastics has succeeded, painfully I may say, in getting rid of a few kilos of flesh, he will find to his chagrin that the old condition of obesity with all the discomfort that it entails will soon become re-established and that his vital energies continue to fail as before.

In subjects who are perfectly healthy and who are not exposed to particularly strenuous and exhausting conditions in the course of their daily routine the physician may proceed somewhat differently. This class of patients is found chiefly among men of somewhat advanced years particularly among the wealthier class and among professional people and office workers, also to a large extent among women. In all of these cases there is really no urgent indication for the removal of moderate degrees of obesity. People of this character who are suffering from a slight excess of flesh rarely resign themselves to the irksome task of giving up some of their favorite habits and of changing their mode of life for the sake of getting rid of a few pounds of flesh; they do not care to undergo all these hardships, to take exercise and to deny themselves many things in order to insure permanent re-

sults; here, therefore, the sacrifice is too great and the disadvantages and discomforts accruing from such a course of treatment are altogether out of proportion to the benefits to be derived from the permanent loss of five or ten kilos of fat. For all these reasons we frequently find that the efforts of these people to reduce their corpulency at home and with the aid of household measures are essentially abortive; a brave attempt may be made to carry out the measures recommended but the patients soon fall from grace and give up their original intention of persevering with the treatment. Many of these people would, I believe, be quite willing to undergo a short course of this kind of treatment even if it were very arduous and trying, provided they could be assured that the loss of weight attained in this way would be permanent and that the weapons could be laid aside for all time as soon as the fight were once won; but we know only too well that in order to obtain permanent results this petty war with one's own desires, tastes and inclinations must be carried on daily and indefinitely; very few people possess a sufficient degree of patience and energy to persist in this effort; as a rule few restrictions, that the physician may have advised, are conscientiously carried out, unless of course certain distressing symptoms warn the patient continuously not to stop in the treatment or unless the physician has uttered some serious warning in regard to life and health; the majority of people however content themselves with some one-sided restriction that is not particularly inconveni-

ent, they stop drinking water during meals, for instance, or eliminate soup from the bill of fare, or eat only bread crust and none of the inside of the loaf; others take an occasional sweat bath or a cold rub or go to a gymnasium for half an hour's or an hour's exercise every few days, or employ a masseur, etc. All these measures, though only sham weapons, nevertheless enjoy a great reputation with the general public. Good results are, of course, never obtained from such halfway measures. Some five years ago thyroid preparations were recommended for the reduction of fat and it is characteristic for the class of people I have described, (and I may add that they are chiefly women who lack the energy and perseverance to carry out a systematic reduction cure,) that they embraced this method of treatment with enthusiasm because they believed it to be a simple and convenient method of getting rid of fat without any exertion on their own part.

The best method of treatment to adopt in this class of cases and the one that has been employed for a long time is to institute short courses of treatment lasting some four or five weeks at varying intervals; the result of these interrupted courses is a loss of weight of a few kilos (usually between three and eight kilos); during this period, that is after this small loss of flesh has been brought about, the patients should be induced to take advantage of their comparative leanness and to strengthen the muscles by systematic exercises and at the same time also to strengthen the skin by appropriate measures. As a rule this good

effect is brought about by a trip to some watering place but there is really no reason why the same results should not be accomplished at home. In the latter case, of course, we cannot count so positively on favorable results as in the former; if they are sent to a watering place in fact we may be almost sure of a good result. In the interval between these short courses we will have to content ourselves, and are moreover probably justified in contenting ourselves, with eliminating some of the most deleterious habits and with regulating the general mode of life of these patients in such a manner that the increase of fat is not too rapid; in this way a return to the former state of corpulence may at least be retarded.

I am very much in favor of sanitarium treatment for both classes of cases that I have described, viz., for sufferers from obesity presenting urgent indications for a reduction cure and for those who do not; in the cases of medium degree a course of treatment in a closed institution is usually followed by excellent results. The educational influence exercised by careful and skilled physicians on patients afflicted in this way is very considerable; many patients who once undergo such a systematic course of sanitarium treatment maintain their reduced weight, for the reason chiefly that they have learned to fully understand and appreciate what they must do; this applies even to those cases who live under external circumstances that would ordinarily favor bad habits and would necessarily lead to a gain of flesh from neglect of the necessary precautions.

If ordinary drinking or bathing cures are taken this permanent effect is not as a rule witnessed; such cures, far from educating patients in the right direction, are more apt to influence them unfavorably. How else could we explain the fact that thousands and thousands of these people are forced to undergo a course of treatment not once or twice but for ten or even fifteen or twenty years in succession; these are the people whom we find making an annual pilgrimage to Marienbad or Karlsbad.

To judge from my personal experience in the treatment of these cases I should say that with rare exceptions the relapses that are so frequent after ordinary drinking or bathing cures do not occur if the patients undergo a systematic course of dietetic treatment in a sanitarium—either together with a drinking cure or without it.

c. Slight Degrees of Obesity (body weight about 5-15 kilo above the normal average). Cases of this character, provided the patients are otherwise healthy, do not call for reduction treatment; all they require, if their corpulence continues to increase, is treatment directed towards preventing a further increase of fat. Nevertheless many people, in particular women, seek the advice of a physician for the sake of reducing even these mild degrees of obesity; they want to lose weight and want to have more slender figures. As a rule vanity is the chief reason why these women want to undergo reduction treatment and not physical dis-

comfort of any kind. Vanity plays a much more important rôle in these cases than in the more advanced degrees of obesity, for the patients of both sexes who are already pretty corpulent are usually accustomed to being obese and no longer indulge the hope of being able to regain the slender outlines that they possessed in more youthful years. Those who may be puritanically inclined might object that a physician should not lend himself to gratifying the whims of vanity; such an ideal standpoint is not justified, however, for it does not consider the actual exigencies of every day practical life; a physician who would refuse to treat a case of the kind described on such grounds would merely drive his client into the hands of some quack who could readily inflict serious damage. Many a physician will, in fact, welcome the opportunity of undertaking the treatment of such a case because in this way he gains control over the mode of life of his patients and may exercise a beneficial influence in many directions, particularly as there is usually much to correct; he may be able to advise greater moderation in eating and may regulate the time of eating and the use or abuse of alcoholic liquors; again he can give definite directions in regard to the amount of physical exercise that should be taken; if by dint of all this control and regulation of the mode of life the goal that both physician and patient are aiming at is finally attained, much more true benefit accrues to the patient than if a rapid reduction cure is undertaken. Particularly in the case of young persons should rapid

reduction cures only be advised with great care and after due deliberation, especially as it will be found that such rapid methods of treatment are exceedingly popular. All that can be attained by this method of treatment is a transitory effect; unless the general mode of life is sensibly regulated at the same time it never prevents the gradual transition of mild forms of obesity into more advanced degrees. On the other hand it may be considered established that a careful avoidance of certain errors of living and of diet, as for instance a restriction of sweets, moderation in beer drinking, a plentiful amount of physical exercise, will be of infinite value in the reduction of incipient obesity and will at the same time prevent the subsequent development of excessive corpulency. If therefore we can use the vanity of our patients as a lever, so much the better; this sort of vanity is moreover to a certain extent excusable and is by no means so serious a vice as many of our puritanical friends would have us believe.

On the other hand, of course, we should exercise great care in humoring the peculiar whims and fancies that we occasionally encounter in our lady patients. In many women, particularly if they have given birth to numerous children, the distribution of fat does not occur regularly over the whole body but seems to favor the abdominal walls in particular. This is an evil that many women emphatically demand to have remedied and unfortunately it is by no means an easy matter to do this. Reduction cures can of course only

be directed towards reducing the general fat-content of the body and as a rule—though not always—produce a loss of fat in other parts of the body than the abdomen (the neck, the shoulders, the breasts and the calves of the leg), while at the same time the fatty deposit in the mesentery and the abdominal walls persists with considerable obstinacy. This peculiar effect is seen particularly in rapid reduction cures, whereas in slow reduction cures the loss of fat is much more uniform and the loss of abdominal fat is consequently also greater in proportion. If the loss of fat can be maintained for some time an equalization of the different fat deposits occurs, in the sense namely, that the excess of fat contained in the abdomen is gradually transported to other portions of the body where there is less fat. This event is usually hailed with much delight particularly as it may follow within a few weeks after the institution of a reduction cure. But the loss of fat is by no means an unmixed good for in many cases these women begin to complain of a series of disturbances that can be directly attributed to the loss of abdominal fat; they begin to suffer from constipation, develop hernias, gastroptosis, dislocation of the kidneys and occasionally malposition of the uterus; the direct effects of the loss of fat are therefore in many cases more troublesome to bear than the mild degree of obesity that these patients were formerly afflicted with. Another sequence of reduction cures in many of these subjects is the development of attacks of gall-stone colic, a condition that may never have

been noticed before or that had at least been dormant and that can as a rule be directly referred to the changes brought about in the arrangement and position of the intra-abdominal organs; while the patients were fat the adipose layer around the gall-bladder and the liver protected these organs from the pressure exercised by skirtbands, corsets, etc.; as soon as the fat was lost the liver was readily compressed and the flow of bile interfered with.

All these disadvantages of reduction cures are in my experience more frequent in mild cases of obesity than in more advanced degrees of corpulency. In cases of pronounced obesity reduction cures, if carried out sensibly, rarely produce so marked a loss of fat that serious changes of intra-abdominal pressure are brought about; enough fat is usually allowed to remain to protect the abdominal viscera and to prevent excessive external pressure on these organs.

Occasionally we are able to promote a more uniform loss of fat and a participitation of the abdominal fat in the general reduction by instituting a course of abdominal massage together with the reduction cure. The efficacy of this mode of combined treatment is, however, greatly exaggerated. If many women actually have the abdomen massaged for a number of years, the long duration of this treatment alone speaks against its efficacy. In cases in which benefits are derived from this method we must assume that the intestine is favorably influenced, particularly in those cases in which a reduction of the abdominal circum-

ference is really brought about; we know that many cases of obesity suffer from intestinal atony and that this sluggish condition of the bowels moreover is particularly apt to follow reduction cures; massage of the abdomen undoubtedly relieves this condition much more than it reduces the abdominal fat; many massage cranks, of course, both among physicians and the laity, claim that the method of treatment exercises its primary and chief effect on the abdominal fat *per se*. I once attempted to determine the effect of local massage on local fat deposits and ordered daily massage of one arm in a stout lady; massage was given according to all the rules of the art for a period of six weeks, a treatment every day. The result was that the arm that was massaged gained one and a half centimeters in circumference while the other arm that was not massaged retained its old dimensions.

If we summarize all that has been said in this paragraph we arrive at the conclusion that reduction cures are not urgently indicated in mild degrees of obesity but are nevertheless desirable for a variety of external reasons and for the purpose chiefly of preventing the development of more advanced degrees of corpulency.

Of the different methods of reducing treatment that can be adopted, slow methods are unquestionably to be preferred, particularly in women with large fat deposits in the abdomen, and in young subjects.

II. The Indications for Reduction Cures in Obesity Complicated with Other Diseases.

Diseases of various kinds, from mild functional disorders of important organs to serious anatomic lesions may determine the attitude the physician should take toward the question of reduction cures in obesity. Simple and clear as the matter lies in uncomplicated obesity the question becomes difficult and complicated in obesity combined with other diseases. Generally speaking we more often are confronted with the necessity of combating obesity for the sake of influencing the course of complicating diseases than of treating obesity for its own sake. It is quite impossible to discuss all the points of view that have to be considered in this place for in order to do this it would be necessary to discuss nearly the whole field of pathology. I must limit my dissertation therefore to a discussion of the most important features of the question at issue and can only treat of the most important disturbances that should induce us to institute reduction treatment; in this way we will learn to recognize those disorders that call for reducing treatment even though the degree of obesity *per se* does not apparently warrant this therapy.

a. Diseases of the Circulatory System. This class of disorders is the most important. Among them I may mention valvular lesions, myocarditis, myodegeneration of the heart, fatty heart or rather heart weakness complicated with obesity, arteriosclerosis, aneurysm of the aorta, etc.

When Oertel treated of the therapy of diseases of the circulatory apparatus together with obesity in the Handbook of General Therapy, this was in reality a very one sided standpoint to occupy; at the same time this classification of the subject has since been shown to be of the greatest practical importance and at the same time of considerable historical interest and significance. Oertel argued that the treatment of these two classes of disorders was inseparably connected.

Even before Oertel's day the dangers of obesity in heart disorders were clearly recognized (for instance in the prognosis of acute infectious diseases, pneumonia, typhoid fever, etc.), but no one stated the dangers arising for heart cases when they were complicated by obesity so emphatically as did Oertel, and no other writer so forcibly described the great advantages accruing to heart cases thus complicated, from therapeutic measures directed towards a reduction of excessive fat. We may even say that on the contrary many clinicians before Oertel considered reduction cures harmful in heart disease because they believed that such treatment had a weakening effect on the organism, and should not be instituted in heart cases. If I speak of heart cases in this place I do not refer merely to sufferers from heart lesions proper, from valvular disorders, and from diseases of the heart muscle, but to all patients who are afflicted with diseases that impose increased work on the heart as, for instance, patients with arteriosclerosis, kyphoscoliosis, advanced degrees of emphesematous destruction of pul-

monary capillaries, extended adhesive pleuritis, etc. All these cases have this in common that the heart is forced to perform increased and excessive work and is soon brought into a condition of hypertrophy with danger of dilatation and insufficiency of the heart muscle, etc. The deleterious effects on the heart are increased whenever the body carries an excessive ballast of fat. The greater this ballast the greater the demands on the heart and the smaller the surplus of energy at the disposal of the heart musculature for overcoming the pathologic obstacles to the circulation of the blood.

As a rule it is altogether impossible to exercise any direct effect on the lesions of the circulatory apparatus itself; how should it be possible, for instance, to dilate a stenosis of the cardiac orifices or to re-establish the permeability of obliterated pulmonary capillaries? In cases, however, that are complicated with obesity we can successfully combat the latter condition and by relieving it save the heart a great deal of excessive work, and in this way enable the impaired organ to devote all its surplus energy to combating the irremediable effects of the pathologic-anatomic disturbance with the circulation of the blood-stream. These theoretic considerations have been brilliantly corroborated by practical experience. To judge from all the reports of numerous writers, and I may include a large clinical experience of my own, reduction cures instituted in a correct manner constitute one of the most valuable adjuvants to the treatment of circulatory diseases that we possess.

There are, of course, numerous cases in which the degree of obesity is so great or in which the lesions of the circulatory apparatus are so far advanced that it is altogether impossible to restore the heart to its normal functional activity.

The most satisfactory and the most suitable cases for reduction treatment are those in which slight disorders of the circulatory apparatus are present, that are very well compatible with life, and at the same time moderate degrees of obesity, cases in which the first signs of failing compensation are just beginning to appear; these constitute the majority of cases of heart disease that present themselves for treatment. If in patients of this character the one damaging factor, viz., obesity, is excluded, and if in addition other measures are instituted that strengthen the heart, many years of life, even many decades of comparative well-being, may be granted these sufferers.

The results of this plan of treatment are, of course, still more positive if the first signs of failing compensation are not even allowed to appear, and if in all cases that are afflicted even with slight disorders of the circulatory apparatus all excessive fat is gradually removed, or if not removed at least prevented from increasing so as to lead to more advanced degrees of obesity. This is a particularly good field for prophylaxis and it must be considered one of the most important duties of the family physician to carefully prevent the incidence of obesity in all cases that come under his care in which he recognizes some weakness of the cir-

culatory apparatus, as, for instance, some valvular lesion developing in early years; in all cases of this kind he must know and understand that obesity is a most undesirable and a dangerous complication.

The peculiarities of each individual case must, of course, determine the exact *modus operandi* to be pursued in combating the tendency to obesity. A few general points of view can nevertheless be established.

In hopeless cases that offer no chance of recovery it is, of course, useless to institute a reduction cure. It is well, however, not to draw the line too closely in this respect, and not to declare too many cases as beyond repair. It will be found that in the different forms of impairment of the heart, of heart weakness, that we encounter in obese subjects, better results are as a rule obtained than in simple cases of heart lesions; effects are sometimes produced that could hardly be foreseen. I consider those cases grave in which edema is present and in which attempts to treat the case energetically with digitalis and similar remedies have been abortive. In all such cases danger is threatening. Although naturally no one will for one instant consider the advisability of instituting a regular dietetic reduction cure in cases of this character, we must never forget that in all such patients the diet is reduced anyhow even without our suggestions to reduce the amount of food; in fact, we will rarely succeed in inducing patients of this kind to eat much; these cases always develop thirst but at the same time have a considerable aversion for solid food. The only measure that prom-

ises some success in these desperate cases is a limitation of the amount of liquid nourishment combined with the administration of strong heart stimulants like camphor, ether, strong spirituous liquors, etc. It is frequently a difficult matter to carry out this limitation of liquid pabulum but it is worth while to make the attempt; for in all cases that can be helped at all we will witness distinct signs of improvement within a week or two. As soon as all immediate danger is passed we should begin to strengthen the heart with careful gymnastic exercises and hydrotherapeutic measures. I think that Schott was right when he called attention to the fact some years ago that many obese subjects derive marked benefits from this method of treatment even in apparently desperate cases. As soon as the first favorable results are obtained we should always follow the treatment up with a second course of digitalis and we will as a rule find that now the results of this therapy are much more favorable than they were before. As soon as the powers of the heart are improved the appetite too as a rule increases. It would be altogether wrong to limit the amount of food at this period for fear of increasing the fat deposit; the appetite of the patient should therefore not be reduced but should be welcomed as a sign of improvement. As a matter of fact, patients who have just recovered from a severe heart attack should be allowed a liberal diet which, of course, must be carefully administered and arranged in such a manner, as regards quality and quantity, as not to overload the digestive organs. Not until all im-

mediate danger of renewed heart weakness is eliminated should we begin to impose restrictions in regard to the diet, and not until then should we think of advising a reduction cure proper; at the same time we should not allow the most favorable period for this treatment to elapse, and should certainly not omit this method of therapy altogether, for otherwise we may expect to witness the development of renewed attacks of cardiac insufficiency. If it can be done at all, patients of this kind should be treated clinically as long as there is any danger from this source.

The matter is much more simple and more favorable in regard to the final outcome if the disturbances of compensation are just beginning, regardless of whether they are due to fatty heart (*Mast-Fettherz,* Kisch) or to some complicating organic lesion of the heart or the blood vessels. The best way to begin treatment is to give digitalis for a time; it appears to me, that in cases of this kind in particular, large doses of digitalis continued for a long period are thoroughly indicated; this method of treatment has, of course, been recommended for some time by other clinicians than myself, in particular by the physicians in Nauheim (Groedel). Following such a course with digitalis a rapid reduction cure should be instituted; none of those methods of treatment, however, should be employed that call for the administration of strong laxatives. In view of the condition of the heart only small quantities of liquid should be allowed these patients. Whenever I encounter a patient in this stage of the disease I greatly

prefer continuing the treatment in a sanitarium because the results obtained in institutions are so much better than those commonly obtained at home; in fact, the effects of such a cure may be excellent and quite surprising. As soon as the first good effects are obtained it is always well to proceed more slowly. In the beginning we may cause a loss of four or five pounds a week, but later the same amount of flesh should be sacrificed only each month.

In all of these cases intermittent reduction cures are also thoroughly indicated and lead to the goal; this treatment is carried out as follows:—In the beginning we should content ourselves with bringing about a loss of about ten pounds, then the patient is again allowed to partake of a somewhat more liberal diet so that no more fat is lost but at the same no fat is gained; at the expiration of about a month the diet is again limited and a loss of flesh produced, and so on. Together with reduction cures other measures should be instituted that are intended to increase the muscular powers of the patient (exercise treatment in Oertel's sense, even though not always according to his methods); in addition the patient should be given cold rubs, sitz baths, douches, mud baths, in particular carbonated mud baths, in order to stimulate the peripheral circulation. The physician should continuously study the best methods for arranging the mode of life of the patient in such a manner that the increase of fat is prevented. The loss of fat should in time be carried so far that the patient regains his normal weight; in the beginning

the reduction of flesh should proceed rapidly, later more slowly.

In cases of heart disease in which no compensatory disturbances have made their appearances there is really no reason why a rapid reduction cure should not be instituted, particularly in medium and advanced degrees of obesity; in the latter cases it may, in fact, be difficult to get along without rapid reduction cures repeated at varying intervals. The most important part of the treatment, however, is the regulation of the general mode of life of these patients so that a loss of fat is slowly but surely brought about. The physician should never relax in his endeavors to call the patient's attention to the dangers that may arise from a violation of the rules he lays down. Even in patients suffering from medium or slight degrees of obesity it will be found that a knowledge of these dangers is beneficial, and the physician should constantly direct their attention to the disadvantages accruing from neglect of the precautions laid down, for in this way he can manage his patients much better. The results of all this treatment will, however, be unsatisfactory and incomplete unless at the same time we institute measures that are intended to exercise and to strengthen the muscles.

b. Diseases of the Kidneys. The only renal disease that we must consider in this connection is atrophic nephritis. As far as I can see very little attention has so far been bestowed on the prognostic importance of dietary treatment in patients with contracted kidneys.

This is surprising, particularly as we fully realize that the fate of these patients is to such a large extent dependent on the functional powers of the heart and that the heart's action is always endangered by excessive fat deposits. In the studies I have made of the treatment of contracted kidney (reported in sketch before the Congress of Internal Medicine, 1899), I have given particular attention to these points, and I do not hesitate to state that in my opinion obesity is as dangerous for patients afflicted with contracted kidney as for patients suffering from heart disease, and that prevention of obesity, or treatment of obesity if it exists, is as beneficial for patients with atrophic nephritis as for heart cases. We are altogether unable to influence the anatomic changes that have occurred in the kidneys and that lead to albuminuria, and we are only to a very slight extent enabled to influence the excretion of albumen, consequently all our efforts should be directed towards the important aim of upholding and strengthening the powers of the heart. In order to do this it is just as important to combat any tendency to obesity as it is to reduce the amount of water allowed these patients, a system of protective therapy that I have advocated in another place.

In general practice these fundamental principles are frequently violated. I frequently see cases of atrophic nephritis that were formerly lean or in a normal state of weight fed on so inappropriate a diet (several liters of milk, butter, farinaceous foods, bread and other vegetables) that they soon become much heavier and

may without hesitancy be called actually obese. Whereas these patients, notwithstanding the existence of albuminuria, felt comparatively well, they now develop a variety of secondary disturbances on the part of the heart, in particular stenocardiac attacks that may all disappear again (provided the disease has not progressed too far) as soon as a considerable reduction of the accumulated fat is brought about.

I may be permitted to sketch a case of this kind.

The patient was an official of 40 years, in whose urine an abundant quantity of albumen was discovered when he was examined for life insurance. At the time this discovery was made he felt perfectly well. His physician made the diagnosis of contracted kidney, that was undoubtedly correct, and prescribed a diet of milk and farinaceous foods, and at the same time prohibited the use of meat and eggs. Within three months the body weight of this patient increased from 130 to 170 pounds. At the same time the patient began to suffer from frequent attacks of dyspnea and also developed several mild sternocardiac attacks at night. He consulted me for the first time when he was in this condition. The apex beat was found about 15 centimeters away from the median line. The degree of albuminuria was about 0.03 per cent., that is about as high as it had been at the time when the disease of the kidneys was first discovered three months before (according to an analysis that the patient submitted, the original degree of albuminuria was 0.033 per cent.). I prescribed a reduction in the amount of liquid nourishment to 5-4ths of a liter combined with a diet that contained few calories (about 25 calories per kilo): at the same time the patient was ordered to take cold

rubs and later to undergo a course of treatment in Homburg. The result of this treatment was excellent. Within six weeks the weight of the patient was reduced to about 150 pounds, and after ten weeks to 135 pounds. The albuminuria naturally persisted but all the distressing subjective symptoms disappeared; at the same time the apex beat was found three centimeters nearer to the median line, and the patient in this way escaped the danger of heart failure that was imminent.

I hope that others may be stimulated to follow my example in treating cases of this kind in this way and that more attention will hereafter be bestowed on the circumstances that I have described. I believe that many cases of renal disease will derive great benefit from a careful regulation of the diet directed not alone toward relieving albuminuria but also toward improvement of the general state of nutrition of the patient.

c. Chronic Pulmonary Disease. As it is my intention to discuss pulmonary tuberculosis separately, and as many other disorders (for instance, kyphoscoliosis, emphysema, adhesive pleurisy) have already been discussed in the paragraph on obesity complicated with diseases of the circulatory apparatus, I will limit my discussion here to chronic bronchitis. This condition, in different degrees of severity and in different varieties, is a very frequent complication of obesity. There are many cases of obesity that suffer from moderate degrees of dilatation of the lungs and from recurrent bronchitis. These are forced from year to year to spend their summers in Ems and their winters in southern climates; they take one inhalation cure after an-

other and swallow the whole array of solvents; many of them become constant, and by no means welcome, visitors to different hospitals without ever deriving any particular benefit from the different methods of treatment they adopt, without ever being restored to health, and, above all, without being saved from constant relapses. However beneficial the one or the other method of treatment may occasionally be, these patients are nevertheless not permanently benefited until the surplus fat is removed. As soon as this is done they can perform deeper breathing, can fill the lungs and in this way can encourage a free circulation of the blood stream through the pulmonary capillaries. In some of these cases the condition of bronchitis may heal spontaneously under these circumstances, in others traces of the old trouble remain behind but they no longer endanger the general health of the patient to such a degree, nor do they become exacerbated as frequently as before.

That this is an important matter can readily be seen from the fact that many cases of obesity perish from respiratory insufficiency even though the heart and the arteries may be quite normal. The limitation of the intrathoracic space by fat may become so great that an attack of bronchitis or the exacerbation of a chronic bronchial catarrh may precipitate a severe dyspneic seizure or even a fatal issue simply from interference with the respiratory excursions of the lungs.

d. Chronic Articular Rheumatism. In certain respects similar conditions obtain in chronic arthritis;

this disease if it attacks the intervertebral articulations, the articulations of the pelvis or of the legs favors obesity from the very beginning; patients afflicted with this disease are only too willing to take any methods of treatment for the cure of their articular trouble, chiefly for the sake of relieving the pain in the joints and of changing the distorted appearance of the affected members; they undergo hot air treatment, or steaming, or hot bathing cures, or gladly go for a course of treatment to the thermal baths of Wiesbaden, Nauheim, Gastein, Wildbad, or to the mud baths of Kissingen, Marienbad, Franzensbad, etc. These and other measures are without doubt at times useful but they are also occasionally superfluous, so that they can very well be dispensed with. The benefits, however, derived in many cases from the reduction of obesity are particularly striking; in many patients, in whom we can produce a considerable loss of weight, we remove pressure and excessive work from the joints and in this way bring about the same good effect as orthopedic surgeons with the ingenious apparatus they have devised for the purpose. I know many cases of arthritis in which great power of locomotion has been regained simply by getting rid of some of their fat; they enjoy a freedom of motion that seemed lost forever. In many of these subjects such measures as baths, massage, etc., did not begin to exercise any beneficial effect on the arthritic process until a reduction cure had first been instituted, and before the loss of fat was brought about all the measures I have mentioned were

altogether without favorable or permanent effect. I was surprised to find that our colleague, Ott, from Marienbad, failed to mention the advantages to be derived from reduction cures in the treatment of arthritic subjects. In the report he made to the Congress of Internal Medicine in 1896 he failed, however, to even mention the subject. In discussing this report at the time I called attention to this omission.

e. Gout (*Arthritis urica*). It is a well-known fact that gout and obesity are frequently found together in the same individual. The prognosis of gout in obese subjects is comparatively favorable; the disease in such subjects rarely develops into that more serious form with deposit of numerous tophi and great destruction of articular structures, that is comparatively common in lean persons. It is also easier to attain good results from treatment in this class of gouty cases, for here moderation in living and extensive physical exercise are usually followed by favorable results. The treatment of gout and of obesity is therefore the same in many respects. Reduction cures in gout intended to influence both metabolic disorders at once have consequently been popular for a very long time, and form one of the most important and the most justifiable branches of the balneological treatment in Carlsbad, Homburg, Kissengen, Marienbad, Vichy and other places. In practice we usually limit ourselves to prescribing an annual course of such balneological treatment; in addition we, of course, give a few important regulations (interdiction of strong alcoholic drinks and

of abundant quantities of liquid nourishment and of water), and a few unimportant ones (interdiction of dark meats). This method of treating our cases is without doubt correct and useful; at the same time we would benefit them a great deal more if we attempted to influence the general daily mode of life to a greater extent than we are in the habit of doing. We realize, however, that particularly in these cases it is a difficult matter to convince the patients that they are likely to sacrifice all the benefits derived from a course in Carlsbad, etc., if they immediately relapse into their ordinary mode of life. In many patients of this character who are pampered and who are used to an easy way of living and who do not care to make radical changes in their mode of life, a prolonged course of treatment in a sanitarium may be of great benefit, particularly in the sense of educating these people in the correct manner of living.

Great difficulties are offered in the selection of the correct diet for cases of gout complicated with obesity. If we follow Sydenham's old doctrine, we will have to limit the amount of meat to a great extent in the treatment of gout, whereas in the treatment of obesity it is not well to reduce the amount of meat for any length of time. Without indorsing the theoretic ideas advanced by Pfeiffer, I nevertheless agree with the practical advice he gives for the treatment of obese sufferers from gout, namely, not to fear the effects of abundant quantities of meat (lean meats of any kind or color); the only precaution to be observed in this practice is

that the patients are also given a plentiful amount of green vegetables and of fruit at the same time.

In gouty subjects we frequently find a variety of disorders that call for a reduction cure with much greater urgency than the uric acid diathesis itself. I refer to genuine renal disease, arteriosclerosis, attacks of cardiac weakness, etc. Some writers have attempted to classify the disturbances of the heart that are seen in cases of gout under the heading of an independent syndrome that they call gouty heart (Gichtherz, Th. Schott). Such a definition, it appears to me, is altogether without justification. If we study cases of this kind more thoroughly—and I have occasion to see many dozen such patients every year, in great part Englishmen who consult me when they come from Nauheim—we will find that almost without exception we are dealing with obese subjects who combine distinct arteriosclerosis and occasionally slight albuminuria with obesity. From the history of these cases we usually learn that the patient indulged in violent physical exercise in his youth and lived a luxurious life later on usually with excessive indulgence in alcoholic liquors. This mode of life we learn was carried on until the first symptoms of the disease appeared; here we certainly have ground enough for the simultaneous development of obesity and of serious injury to the circulatory apparatus. As soon as the slightest signs of gouty pain appear together with these symptoms, and in innumerable cases without any definite indication of gout, the average Englishman is inclined to attribute the whole symptom com-

plex to the gouty diathesis and to explain all his troubles on this basis. This view is certainly wrong. It would be of much greater benefit to every one concerned if we refrained from using the euphemistic expression gout and called things by their right name. If we did this we would not attribute the symptoms to any gouty disposition, but simply to chronic abuse of alcohol. From a therapeutic point of view the doctrine of gouty heart has been of great benefit. We have become accustomed in patients afflicted in this way to consider the condition of the heart more than the uratic diathesis and to arrange our treatment accordingly. As soon as the necessity of such a method of procedure is once recognized we will at once understand that it would be bad practice to refrain from devoting particular attention to the reduction of the obesity that so frequently complicates these lesions; in fact, when arranging a general plan of treatment we should always include obesity in our calculations. The change that has occurred in the views of many practitioners in regard to this matter is distinctly manifested in the tendency that is becoming more and more apparent not to send these patients, as heretofore, to some watering-place like Carlsbad, Neuenhar and Vichy, where the patient takes a course of alkaline waters, but to send them every year to some watering-place where corpulence is treated by a carefully selected dietary and where the heart is strengthened by such measures as baths, massage, gymnastic exercises, mountain-climbing, etc. (Carlsbad is to be recommended if the

amount of water-drinking is to be limited, otherwise this place is not very suitable; Homburg, Kissingen, Marienbad, Nauheim, Tarasp have cold-water institutes, so-called "Terrapin" watering-places.)

f. Other Diseases of the Organs of Locomotion. In addition to chronic rheumatism and gout a number of other diseases that interfere with locomotion call for reduction cures whenever even slight degrees of obesity seem to render the movements of the body difficult. To this class of diseases belong, for instance, hemiplegia, chronic diseases of the spinal cord, many cases of peripheral paralysis, numerous surgical diseases of the joints and bones, grave cases of varicose veins, and chronic ulcerations of the legs, etc. It is clear, of course, that a reduction of excessive fat must give much relief to sufferers from all these lesions; nevertheless this point is not sufficiently appreciated in practice. The average practitioner is usually content with half-way measures that do not prevent a gradual increase of the body weight and in this way lead to interference with locomotion of these patients and consequently with metabolism; in this way, too, the condition of such patients is apt to become aggravated, for the reason chiefly that they do not get enough exercise. I consider it an important and an urgent part of the treatment of these cases to decrease the body weight wherever this is possible. The best method consists in beginning a regular reduction cure combined with exercise and strengthening of all the muscles that are still capable of performing their function, together

with massage and physical exercises; the latter two methods of treatment frequently producing brilliant results in the desired direction. The effect of this treatment is so apparent, and the patients are so grateful for the relief bestowed upon them, that all this should encourage us to attempt this method of therapy in every case of this character that comes under our care.

g. Diseases of the Nervous System. Some of the diseases of the nervous system we have already discussed above, those, namely, that interfere with locomotion; other forms of nervous disease call for a short discussion. We are here dealing with certain empiric facts that are not quite understood. In the first place reduction cures are known to act beneficially in certain forms of sciatica and of other neuralgias that we occasionally encounter in obese subjects. I have succeeded in several instances in relieving certain forms of supraorbital and of occipital neuralgia that were very obstinate by instituting a reduction cure even after all other customary methods of treatment had failed. Cases of brachial neuralgia of the left side are also suitable for treatment of this kind, particularly those forms that are combined with pain and oppression in the region of the heart. This variety of neuralgia may either be one of the symptoms of angina pectoris or may appear independently and without any determinable involvement of the coronary arteries of the heart. It is impossible to predict in this or any other form of neuralgia whether or not a reduc-

tion cure will act beneficially. According to my personal experience in this field, good results are obtained with sufficient frequency to warrant an attempt with this method of treatment, especially as improvement in suitable cases is witnessed within a short time, *i.e.*, within two or three weeks after the reduction cure is begun. In view of this fact it is always an easy matter to determine relatively early in the treatment whether or not a reduction cure is going to lead to the desired goal.

In hysteria great difficulties are offered. Generally speaking we encounter many more cases of hysteria that are poorly nourished and call for an increase of the fat deposit than cases of hysteria that are obese and call for reduction of excessive fat. Cases of the latter kind are by no means rare, however. They are usually of persons who "cannot" or "will not," whose will-power is small. Subjects of this kind usually eat a great deal and are at the same time lazy so that they do not get enough muscular exercise and do not develop any energy and readily grow moderately fat. In many cases of this character a reduction cure carried out according to correct principles and combined with increasing demands on the energy of the patients frequently constitutes the starting point for a new life and a revival of strength and self-confidence. Cures of this kind can only be successfully carried out in closed institutions.

h. Diabetes mellitus. The statement has frequently been made by different clinicians that cases of diabetes

usually feel better and are better protected against the dangers of diabetes if they are fat above the average. It has also been stated that diabetics do not tolerate reduction cures very well. I have myself expressed similar views in another place. It is clear therefore that cases of diabetes that are suffering from slight degrees of obesity should never undergo a reduction cure, and that cases suffering from medium degrees of obesity should undergo reduction cures only under exceptional circumstances. This does not, however, exclude the necessity of reducing fat in cases of diabetes that are very obese and in whom the excessive fat content of the body directly endangers the life of the patient. In certain cases diabetes may be complicated by attacks of heart failure (in patients afflicted with valvular lesions, arteriosclerosis, contracted kidney and simple cardiac weakness). Patients of this character should be relieved of any excess of fat even if the obesity is only of medium degree; only in this way can the heart be protected from excessive strain. I could quote numerous examples to illustrate the point I am making, namely, that reduction cures are not necessarily always counter-indicated in every case of diabetes. The experience of the physicians of Carlsbad and of Marienbad also supports this position. In regard to the best method to be adopted, we must always remember that diabetes tolerates neither long continued reduction of flesh nor, on the other hand, sudden loss of weight and reduction of fat. The best way to produce the desired result in these cases is to institute in-

termittent reduction cures; in other words, two or three pounds at the utmost should be made to disappear in the course of three or four weeks; this reduction treatment should be repeated every three months. The reduction of fat should never be carried further than is absolutely necessary for the conservation and the protection of important vital functions.

i. Pulmonary Tuberculosis. Modern phthisiotherapy, according to Brehmer and Dettweiler, calls for abundant nutrition in phthisis. The results of this treatment are so extraordinary and so satisfactory that we need not be surprised to find many cases of tuberculosis who become quite obese. As a rule patients are between twenty and thirty-five. The majority of them were so fortunate as to discover the disease at an early stage, and, following modern methods of treatment, underwent prolonged rest and fattening cures. While I recognize that a systematic fattening treatment is most beneficial in tuberculosis and exercises a most favorable influence on the course of the disease, and while I am inclined to encourage such treatment in suitable cases, I must nevertheless raise my voice in warning against any exaggeration of this mode of treatment. Unfortunately we find such exaggerations are frequent now-a-days. The natural result is that many cases of tuberculosis are converted into obese individuals whose functional powers are much reduced. I have followed a number of such cases and I am not of the opinion that the condition of obesity renders these

people more fit to struggle against the tubercular invasion and the inroads of the disease that has affected their lungs. As long as they can lead the lazy life that is imposed on them in the different institutions where this treatment is given, everything goes well and they are exhibited as shining examples and the pride of the institution. As soon, however, as they return to the routine of everyday life outside of the institution, the course of the disease usually takes a rapid turn for the worse, and a second course of fattening treatment is rarely capable of saving them. In other cases the patients retain their good health even after they leave the sanitarium, but these subjects have gained some 40 or 50 pounds and are consequently decidedly obese; they suffer from this condition and are for all future time exposed to the dangers that this state engenders.

I should like to insert in this place the history of a case of this character. The patient was a woman of 22 years, moderately well nourished (weight, 58.8 kilos). After her first puerperium she went through a mild attack of pleuritis; when this was over a few suspicious fine râles were heard at the right apex, and after prolonged search a few tubercle bacilli were discovered in the sputum. Domestic circumstances made it desirable to remove this patient from home. At this time I suggested that the woman, who was a spoiled and pampered individual, should spend the winter in the mountains, especially as she was a very vigorous person otherwise. It was decided, however, to send her to a sanitarium that was situated in the vicinity. The reports received from this institution were very favorable; the general health was good, there was never any

fever, and the weight increased. The râles at the apex disappeared within a few months and were never heard again although the lungs were examined twice a week. She remained in this institution all winter long and returned home at the expiration of seven months apparently perfectly well and having gained 19 kilos. At home she voluntarily continued to live on an abundant fattening diet and gained 10 kilos more during the summer months. In August of the same year I was consulted a second time as the patient had in the meantime developed difficulty in breathing and had suffered several fainting attacks. Nothing abnormal was discovered in the lungs. The patient, however, presented all the features of advanced obesity of the anemic type, with alarming weakness of the heart and the muscles. Several months of careful treatment were required to reduce the weight somewhat and to increase the functional powers of the heart and of the muscles. This patient has never again—two years and a half have elapsed since that time—regained the same degree of freshness and vigor that she enjoyed before she began the sanitarium treatment.

It might be argued that the dangers of obesity as compared to the dangers of tuberculosis are very insignificant. This is undoubtedly true, but might we not ask whether it is necessary to drive off one foe by opening the gates to another one? It is unnecessary to attain more than a certain optimum of nutrition even in the treatment of tuberculosis; in fact, it is bad practice to force feeding beyond this point. I am glad to find that Blumenfeld occupies the same stand in a dissertation that this author has recently taken. I would certainly hesitate to institute a reduction cure in any sub-

ject who has lately passed through some tubercular affection of the lungs or who is actually afflicted in this way; I would only advise this in case the condition of obesity itself threatened imminent danger. At the same time I feel called upon to warn against too forced feeding in the treatment of pulmonary disease; in other words, I advise raising nutrition to a point that may be considered good and satisfactory but not to carry feeding so far that the patient becomes actually obese; for wherever the fat deposit becomes excessive there is little room for the healthy development of the muscles. This applies still more to sick persons than to well subjects. And as the strengthening of muscle tissue guarantees a far better outlook for the future than the accumulation of fat I can only warn against the artificial induction of obesity in these cases.

I herewith conclude this review of the indications for reduction cures. I am fully aware of the fact that I have been unable to give more than a general sketch. While I have, I believe, done full justice to the more important points that must be considered, I realize, at the same time, that in practice many cases will be encountered in which a decision in regard to the advisability of a reduction cure will have to be arrived at from other points of view than those enunciated in this treatise; the principles that will have to govern this decision in each individual case are such that they cannot be discussed from a general therapeutic standpoint.